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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,963	03/05/2002	Dennis E. Chapman	112056-0047	6338
24267 7590 02/27/2007 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			EXAMINER NGUYEN, CINDY	
			ART UNIT	PAPER NUMBER
			2161	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/090,963

Applicant(s)

CHAPMAN, DENNIS E.

Examiner

Cindy Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

This is response to communication filed 11/22/06.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 32 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

To be statutory, a claimed computer-related process must either: (a) result in a physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (b) be limited to a practical application with useful, concrete and tangible result.

In the present case, the claims that recite nothing but the physical characteristics of a form of energy such as electromagnetic signals, pre-se, and as such are

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nonstatutory natural phenomena, the claimed does not itself perform any useful, concrete and tangible result and thus does not fit within the definition of the machine.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 34-36, 38-41, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Hitz et al. (US 6721764) (Hitz).

Regarding claims 34, 39 and 44, Hitz discloses: a method, system and a computer readable medium for generating a point in time restoration of a database to an active file system, the method comprising the steps of:

Storing a first snapshot, the first snapshot taken at a first time, the first snapshot including a set of data file (col. 18, lines 22-29, Hitz);

storing a copy of a first log file, the copy of the first log file associated with the first snapshot, the copy of the first log file including information that had not yet been incorporated into the database files as of the first time; (col. 18, lines 7-29, Hitz);

storing a copy of a second log file, the copy of the second log file associated with a second snapshot taken at a second time subsequent to the first time, the copy of the second log file including information received subsequent to the first time that had not yet been incorporated into the database files as of the second time (col. 18, lines 22-29, Hitz); and

copying the first snapshot, the copy of the first log file, and the copy of the second log file to the active file system, to thereby restore at least a portion of the information received at the database subsequent to the first time without using the second snapshot (col. 18, lines 45-60, Hitz).

Regarding claims 35 and 40, all the limitations of these claims have been noted in the rejection of claims 34 and 39 above, respectively. In addition, Hitz discloses: verifying that the first snapshot, the copy of the first log file, and the copy of the second log file are not corrupted and are valid (col. 14, lines 42-60, Hitz).

Regarding claims 36 and 441, all the limitations of these claims have been noted in the rejection of claims 34 and 39 above, respectively. In addition, Hitz discloses: wherein the step of copying further comprises: copying contents of a root inode associated with the snapshot to a root inode associated with the active file system (17, lines 49 to col. 18, lines 6, Hitz).

Regarding claims 38 and 43, all the limitations of these claims have been noted in the rejection of claims 34 and 39 above, respectively. In addition, Hitz discloses: wherein the

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copy of the first log file and the copy of the second log file are stored in directories of the active file system, the directories also storing meta data associated with the snapshots (col. 18, lines 22-29, Hitz).

Claims 45-51 are rejected under 35 U.S.C. 102(e) as being anticipated by Rudoff (US 6636878).

Regarding claim 45, Rudoff discloses: a method of restoring data in an active file system, the method comprising: selecting, by a user, a backup to restore therefrom, the backup comprising a snapshot of the file system and log files, the log files representing changes to the file system since the snapshot was rendered coherent (col. 10, lines 17-31, col. 11, lines 10-25, Rudoff); and

copying, the snapshot of the file system and the log files to the active file system (col. 12, lines 40-59, Rudoff).

Regarding claim 46, all the limitations of this claim have been noted in the rejection of claim 45 above. In addition, Rudoff discloses further comprising: verifying the selected backup of coherency, wherein the copying is performed in response to the backup being verified as coherent (col. 6, lines 50-57, Rudoff).

Regarding claim 47, Rudoff discloses a method of restoring data in an active file system, the method comprising: selecting a snapshot by a user, the snapshot including a database and log files associated with the database, the log files including changes to the file system that occurred before the snapshot was generated but had not been incorporated

into the database before the snapshot was generated (col. 10, lines 17-31; col. 11, lines 10-25, Rudoff); and

copying the database and the log files associated with the database from the snapshot to the active file system (col. 12, lines 40-50, Rudoff);

Regarding claim 48, all the limitations of this claim have been noted in the rejection of claim 47 above. In addition, Rudoff discloses further comprising: further comprising selecting, by a user, all additional log files, newer than the selected snapshot, the additional log files including changes to the file system that occurred after the selected snapshot was generated (col. 10, lines 17-31); and

copying the additional log files to the active file system (col. 12, lines 40-50, Rudoff).

Regarding claim 49, Rudoff discloses a method of restoring data in an active file system, the method comprising: selecting a snapshot by a user, the snapshot including a pointers to blocks of a database and log files associated with the database, the log files including changes to the file system that occurred before the snapshot was generated but had not been incorporated into the database before the snapshot was generated (col. 10, lines 17-31; col. 11, lines 10-25, Rudoff); and

copying the database and the log files associated with the database from the snapshot to the active file system (col. 12, lines 40-50, Rudoff).

Regarding claim 50, all the limitations of this claim have been noted in the rejection of claim 49 above. In addition, Rudoff discloses further comprising: further comprising: selecting, by a user, all additional log files, newer than the selected snapshot, the additional log files including

changes to the file system that occurred after the selected snapshot was generated (col. 10, lines 17-31, Rudoff); copying the addition files to the active file system (col. 12, lines 40-50, Rudoff).

Regarding claim 51, all the limitations of this claim have been noted in the rejection of claim 49 above. In addition, Rudoff discloses further comprising: further comprising: verifying the selected backup of coherency, wherein the copying is performed in response to the backup being verified as coherent (col. 6, lines 50-57, Rudoff) .

### **1. Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

### **2. Claims 4-33, 37 and 42, 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudoff (US 6636878) in view of Hitz (US 6311193).**

Regarding claims 4 and 20, Hitz discloses: a method and a computer readable medium, including instructions executing on a computer for generating a point in time restoration of a set of database files and a set of associated log files to an active file system, the method comprising the steps of : selecting, by a user a backup to restore therefrom, the backup comprising a snapshot of the file system including the set of database files and copies of the associated log files (col. 10, lines 17-30, Rudoff);



Verifying the selected backup for coherency (col. 6, lines 50-57, Rudoff);

However, Ruddoff is silent to discloses: Copying, in response to the backup being coherent, the snapshot of the set of database files to the active file system, Copying, in response to the backup being coherent, the copies of the associated log files to the active file system. On the other hand, Hitz discloses: Copying, in response to the backup being coherent, the snapshot of the set of database files to the active file system (col. 17, lines 58 t col. 18, line 6, Hitz); Copying, in response to the backup being coherent, the copies of the associated log files to the active file system (col. 18, lines 1-6, Hitz). The motivation being to enable the system prevents new data written to the active file system from overwriting old data that is part of a snapshots.

Regarding claims 5, 12 and 16, all the limitations of these claims have been noted in the rejection of claims 4, 10 and 14 above, respectively. However, Rudoff/Hitz disclose: wherein the step of copying the snapshot to the active file system further comprises the step of copying contents of a root inode associated with the snapshot to a root inode associated with the active file system (17, lines 49 to col. 18, line 6, Hitz).

Regarding claim 6, all the limitations of this claim have been noted in the rejection of claim 4 above. In addition, Rudoff/Hitz discloses: wherein the backup is selected from a set of backups associated with the active file system (col. 19, lines 31-47, Hitz).

Regarding claim 17, Rudoff/Hitz discloses: a method for generating a backup of a set of database files associated with the database program and a set of associated log files, the method comprising the steps of: performing a snapshot operation on the set of database files (col. 17, lines 50 to col. 18, lines 6, Hitz); and

Copying the set of log files to a directory associated with the backup (snapshots stored in a directory, col. 18, lines 22-29, Hitz).

Regarding claims 7, 13 and 15, 33, all the limitations of these claims have been noted in the rejection of claims 4, 10 and 14 and 17 above, respectively. In addition, Rudoff/Hitz discloses wherein the method further comprises the step of renaming the copies of the associated log files to the set naming convention (col. 15, lines 20-25, Rudoff).

Regarding claim 8, all the limitations of this claim have been noted in the rejection of claim 4 above. In addition, Rudoff/Hitz discloses: wherein the database files and log files are associated with electronic mail message (col. 17, lines 59-61, Rudoff).

Regarding claim 9, all the limitations of this claim have been noted in the rejection of claim 4 above. In addition, Rudoff/Hitz discloses: wherein the set of associated log files further comprises data to be incorporated into the set of database files (fig. 18A-18C, Hitz).

Regarding claims 10 and 21, all the limitations of these claims have been rejected as claim 4 above. In addition, Rudoff/Hitz discloses: Copying the copies of the log files

associated with the set of snapshots created later in time than the selected snapshot to the active file system (col. 19, lines 23-30, Hitz).

Regarding claim 11, all the limitations of these claims have been noted in the rejection of claim 10 and 4 above. It is therefore rejected as set forth above.

Regarding claim 14, Rudoff/Hitz discloses: method for generating a point in time restoration from a set of backups, each of the set of backup comprising a snapshot and copies of a set of log files associated with the snapshot, the method comprising the steps of selecting one of the set of backups to generate the point in time restoration therefrom (col. Col. 20, lines 44-61; col. 22, lines 3-25, Hitz);

Copying the database files from the snapshot to an active file system (col. Col. 17, lines 58 to col. 18, lines 6, Hitz); and

Copy the copies of the set of log files to the active file system (col. 18, lines 31-45, Hitz).

Regarding claim 18, all the limitations of this claim have been noted in the rejection of claim 17 above. In addition, Rudoff/Hitz discloses: wherein the method further comprises the step of validating a snapshot generated by the snapshot operation (col. 14, lines 42-60, Hitz).

Regarding claim 19, all the limitations of this claim have been noted in the rejection of claim 18 above. In addition, Rudoff/Hitz discloses: wherein the method further comprises the step of marking, in response to a successful validation of the snapshot, the snapshot as a backup snapshot (col. 14, lines 42-60 and col. 20, lines 18-42, Hitz).

Regarding claims 22, 25, 28, 30-32, Rudoff/Hitz discloses: a method, a file system, a computer readable media and electromagnetic signals propagating on a computer network comprising: rendering the file system coherent in preparation for generating the backup, to product a coherent file system (col. 20, lines 18-42, Hitz); creating a snapshot of the coherent file system, the snapshot created as a copy of a set of pointers to data, the data stored in the coherent file system (col. 20, lines 44-60, Hitz).

Regarding claims 24 and 27, all the limitations of these claims have been noted in the rejection of claims 22 and 25 above, respectively. In addition, Rudoff/Hitz discloses: maintaining the file system available for access by users while generating the backup (col. 14, lines 5-15, Rudoff).

Regarding claims 23 and 26, all the limitations of these claims have been noted in the rejection of claims 22 and 25 above, respectively. In addition, Rudoff/Hitz discloses: incorporating a log file into the file system to render the file system coherent (col. 11, lines 63 to col. 12, lines 11, Hitz).

Regarding claims 37 and 42, all the limitations of these claims have been noted in the rejection of claims 34 and 39 above, respectively. In addition, Rudoff/Hitz discloses: wherein the step of copying further comprises: renaming the copy of the first log file and the copy of the second log file according to a naming convention of the database such that the first log file and the second log file are recognized by the database (col. 15, lines 20-25, Rudoff).

Regarding claim 52, Rudoff/Hitz discloses: A data backup apparatus, comprising:  
an active file system (col. 17, lines 50-56, Hitz); a backup including one or more snapshots in communication with the active file system, the snapshots representing a database at a point in time (col. 19, lines 1-30, Hitz);

metadata associated with each of the snapshots (the size of the blkmap entries), the metadata in communication with the active file system and including log files which represent changes to the active file system that occurred before each snapshot was generated but had not been incorporated into the database before the particular snapshot was generated (col. 21, lines 64 to col. 22, lines 18, Hitz); and

a user interface in communication with the active file system, the user interface adapted for selecting a snapshot and log files to restore from associated with the selected snapshot or selecting a snapshot to restore from and all of the log files generated since the selected snapshot was generated (col. 10, lines 17-31 and col. 15, lines 45-63, Rudoff).

Regarding claim 53, all the limitations of this claim have been noted in the rejection of claim 52 above. In addition, Rudoff/Hitz discloses: wherein the snapshot includes pointers to blocks of a database (col. 18, lines 31-45, Hitz).

Regarding claim 54, all the limitations of this claim have been noted in the rejection of claim 52 above. In addition, Rudoff/Hitz discloses: wherein the snapshot includes data of a database (fsinfo block, col. 18, lines 31-45, Hitz) .

**Contact Information**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cindy Nguyen



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